

COLUMN

A new lease of life

Colin Summerhayes laments the rise of climate science denialism

Strange things are in the wind. With the arrival of Donald Trump in the White House, environmental science has come under significant threat, and global warming denial has received a new lease of life. One of the hot beds of global warming denial in the USA – the Heartland Institute – has just become established in the UK and is already working with Nigel Farage (Horton & Quinn, 2025). The Institute has also been working with right-wing Members of the European Parliament to campaign against environmental policies (Horton et al., 2025). On the Trump agenda is the shrinkage of the Environmental Protection Agency, which advises on and implements environmental regulations, and the virtual cessation of climate change advice from NOAA (the National Oceanic and Atmospheric Administration), which collects and manages the USA's weather and climate data. NOAA also works with similar agencies around the world to provide a global picture of climate change and sea level rise. Casting science away like this sets a dangerous precedent. Just because one doesn't like what the science tells us, doesn't mean it's not true.

Climate science is no different from any other science in being a consensual

social process (Oreskes, 2019). Climate scientists study the natural world to find things out, explain what they know and how they know it. Just like other scientists, they are linked to colleagues across the world and work as a community to robustly vet claims by reviewing articles, and through conferences, workshops and specialist meetings. Critical interrogation of results is mandatory. Published work is continually evaluated and judgements are made about the worthiness of candidates for tenured positions. Consequently, the track record of climate science has a substantial record of success in explanation, prediction, and providing the basis for successful action. In any scientific field, when a subject has been investigated for some time, scientists will converge on a consensus – that the universe is expanding, or that organisms evolve, or that greenhouse gases cause global warming, for example – because having investigated other possible causes, they found them wanting.

Hard decisions

Why is climate science, especially global warming, considered by some to be controversial? Much of the criticism of global warming science comes from the

hydrocarbon industries or those they fund (Oreskes & Conway, 2010). That is because climate science findings are unwelcome to those vested interests, which are rich and powerful enough to lobby governments on their behalf, and to fund apparently independent think-tanks to spread their message to the unsuspecting public. Their messages, often through paid 'so-called' experts, spread through the Internet, YouTube and media outlets, which serve as their echo-chambers.

Because the discoveries of climate scientists imply a need to take actions contrary to those interests and their profitability, some in those industries misrepresent the scientific evidence for global warming, and manufacture doubt about it (as the tobacco industry did regarding claims that smoking caused cancer; Oreskes & Conway, 2010). They are not using scepticism to question the science so as to improve it, but rather to discredit it, and to confuse politicians and the public. And yet in 1984, E.E. David, the President of EXXON Research and Engineering Company, wrote *"Few people doubt that the world has entered an energy transition away from dependence upon fossil fuels and toward some mix of renewable resources that will not pose problems of CO₂*

accumulation. The question is how do we get from here to there while preserving the health of our political, economic and environmental support systems" (David, 1984).

EXXON knew by the late 1970s that hard decisions would be needed regarding changes in energy strategy. Those hard decisions have never been taken – because they would threaten profits.



Meltwater streams from an iceberg calved from the Ilulissat Glacier, West Greenland. With Donald Trump in the White House, denial of anthropogenic climate change has a new lease of life, notes Colin Summerhayes

Judging reliability

Widespread misrepresentation of climate science is not obvious to the general public (Bardon, 2019), for three main reasons:

1) It is difficult for the public to access the latest climate science, which is published in scientific journals. Access to the articles and their data is often hidden behind publishers' paywalls. To overcome that,

colleagues and I write books (e.g. Summerhayes, 2020) for and lecture to the public about global warming and sea level rise.

2) Difficulty in accessing the data forces the public to seek information about climate change on the Internet, a source of misinformation (incorrect or misleading) and disinformation (deceptive and a form of propaganda). This is

“Some people may have the impression of confusion, disagreement, or discord among climate scientists. That impression is false”

a 'new' problem, because the Internet did not reach homes until the mid-2000s.

3) Most major newspapers are owned by very rich people, many of whom support the excessive profit-making of the fossil fuel industries, and thus further denial of global warming.

Where can people go to judge how reliable climate science is? Obvious sources are the websites of the Royal Society (royalsociety.org), or professional scientific organisations like the UK's Meteorological Office, or their equivalents elsewhere. The Geological Society of London provides a geological perspective on climate change (Lear et al., 2020). The UK's *Guardian* newspaper is a reliable source of information. Books, too, carry a great deal of useful data (e.g. Krauss, 2021).

Confusion and discord

The last ten years have been the warmest in the observational record (Hansen et al., 2023). With a global average temperature rise of $>1.5^{\circ}\text{C}$ above pre-industrial levels, 2024 was the warmest year yet recorded in the modern era (EU Annual Climate Summary, 2024). Despite the strong consensus within the climate science community that humans are causing global warming (Oreskes, 2004), some politicians, economists, journalists, and others may have the impression of confusion, disagreement, or discord among climate scientists. That impression is →



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false. The scientific consensus might, of course, be wrong. But our grandchildren will surely blame us if they find that we understood the reality of anthropogenic global warming and failed to do anything about it. **G**

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FURTHER READING

A full list of further reading is available at [geoscientist.online](https://www.geoscientist.online).

- Bardon, A. (2019) *The Truth About Denial: Bias and Self-Deception in Science, Politics, and Religion*. Oxford Academic. OUP, 352 pp.
- Davis, E.E., Jr. (1984) *Inventing the Future: Energy and the CO₂ "Greenhouse" Effect*. In *Climate Processes and Climate Sensitivity* (eds J.E. Hansen and T. Takahashi)
- EU Annual Climate Summary (2024) *Global Climate Highlights 2024*; climate.copernicus.eu
- Hansen, J.E. et al. (2023) *Global warming in the pipeline*. *Oxford Open Climate Change* 3 (1)
- Horton, H. & Quinn, B. (2025) Farage and Truss attend UK launch of US climate denial group. *The Guardian*, 15 January; theguardian.com
- Horton, H. et al. (2025) *Revealed: US climate denial group working with European far-right parties*. *The Guardian*, 22 January; theguardian.com
- Krauss, L.M. (2021) *The Physics of Climate Change*. Bloomsbury Publishing, 208 pp.
- Lear, C.H. et al. (2020) *J. Geol. Soc.* 178
- Neukom, R., et al. (2014) *Nature Clim Change* 4, 362–367
- Oreskes, N. (2004) *Science* 306, 1686
- Oreskes, N. (2019) *Why Trust Science?* Princeton University Press, 376 pp.
- Oreskes, N. & Conway, E.M. (2010) *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. Bloomsbury Press, 368 pp.
- [RoyaSociety.org](https://royalsociety.org): *The Basics of Climate Change*; royalsociety.org
- Summerhayes, C.P. (2020) *Paleoclimatology: from Snowball Earth to the Anthropocene*. Wiley-Blackwell, 560 pp.

LETTER

Inspired by the landscape

DEAR EDITORS,

I enjoyed reading the article by Jingwen Luo and Mike Stephenson about the Chinese poet Li Bai (The Wanderer of the Chinese Landscape. *Geoscientist* 35(1), 18–26, 2025). Many other Chinese poets wandered the country and wrote poems about its landscapes. For example, Li Bai's near contemporary Du Fu [712 – 770 CE] has an equally high reputation and spent years in exile, a frequent state for the literate group of Chinese that we describe as 'mandarins'. They would console themselves by meeting to drink and exchange poems. Most were male but there were women, notably Li Qingzhao [1084 – 1155 CE]. She wrote this poem, *Spring in Wuling*, for her husband Zhao Mingcheng when he was away. Invaders from the north had driven them from their beloved homeland.



Stamps printed in China in 2023–24 commemorated writers of Ancient China, including Li Qingzhao

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*Draughts stir the dust and blossoms fall,
I'm all alone with no one here to sweep,
It's late and I'm too tired to comb my hair.
If I could chat, all I would do is weep.*

*They tell me at Twin Streams, Spring is now fair
And we could plan to drift down in a boat,
Although I'm still afraid it wouldn't float*

But sink beneath the weight of all my care.

Classical Chinese poems, including those in your article, have regular patterns of characters and rhymes. I have tried to invoke these aspects of Li's original by scanning and rhyming this translation.

ROGER MASON

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DDE & GEOGPT: UPDATES

The International Union of Geological Sciences (IUGS) has completed its review of the Deep-time Digital Earth project (DDE). IUGS has resolved to suspend formal links and activities with DDE for one year, allowing time for DDE to address the points raised during the review.

The generative large language model GeoGPT was excluded from the review and is now separately governed. The latest updates and discussion on GeoGPT are available at [geoscientist.online/sections/viewpoint](https://www.geoscientist.online/sections/viewpoint)

A SUMMARY OF THE IUGS REVIEW IS AVAILABLE HERE →

